

CLAIMS

What is claimed is:

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1. A method comprising:

processing a polymer selected from the group consisting of a precursor to an electrically conductive polymer and an electrically conductive polymer in a solvent comprising a fluorinated solvent.

2. A method according to claim 1 wherein said polymer is in a solution of said fluorinated solvent and less than about 20 weight % of said solution.

3. A method according to claim 1 wherein said precursor polymers to said electrically conductive polymers are selected from the group consisting of ~~substituted and unsubstituted~~ polyparaphenylenes, polyparaphenylevevinylenes, polyanilines, polyazines, polythiophenes, polythianaphthenes, polyphenylenesulfides, polyfuranes, polypyrroles, polyselenophenes, polyacetylenes and combinations thereof and copolymers of monomers thereof.

4. A method according to claim 1 wherein said processing is selected from the group consisting of synthesizing said polymer in said solvent and solvating said polymer in said solvent.

5. A method according to claim 1 wherein said polymer is a precursor to an electrically conductive polymer and exposed to said solvent while said precursor is exposed to a dopant.

6. A method of forming a polymer selected from group consisting of a precursor to an electrically conductive polymer and an electrically conductive polymer comprising: exposing a solution of polymerizable units to a solvent comprising a fluorinated solvent during polymerization to form said polymer.

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7. A method comprising:
polymerizing monomers in the presence of a solvent comprising a fluorinated solvent to form an electrically conductive polymer; during neutralization of said electrically conductive polymer to an undoped form to form a deaggregated nondoped form of said electrically conductive polymer.

8. A method according to claim 1 wherein said solvent comprises a combination of said fluorinated solvent and a nonfluorinated solvent.

9. A method according to claim 1 wherein said polymer is in a solution and is less than about 5 weight percent of said solution.

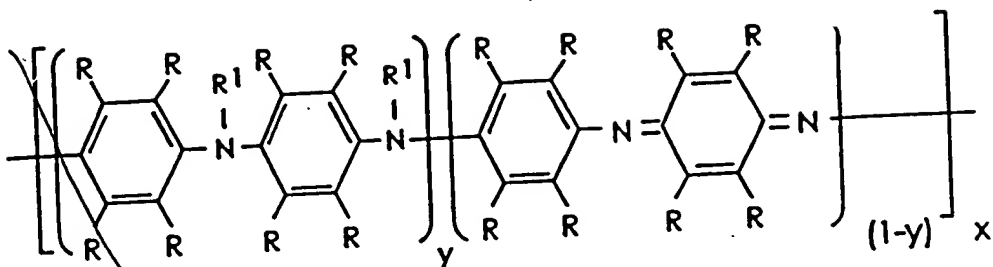
10. A method according to claim 6 wherein said polymerizable units are selected from the group consisting of one or more of monomers and oligomers.

11. A method according to claim 1 wherein said polymer is in a form selected from the group consisting of a solution and a solid state.

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12. A method according to claim 1 wherein

13. A method according to claim 1 wherein said polymer is a polyaniline.

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21. A method according to claim 1 wherein said polymer is polyaniline having structural formula:



wherein each R can be H or any organic or inorganic radical; each

R can be the same or different; wherein each R

sup 1

can be H or any organic or inorganic radical, each R

sup 1

can be the same or different;

$x \geq 1$

; preferably

$x \geq 2$

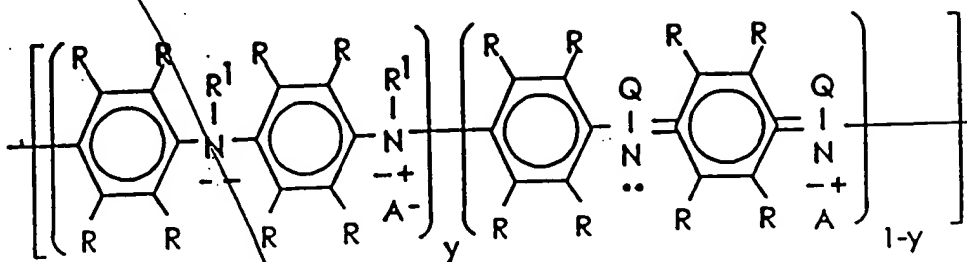
; y has a value of 0.5 or said nonreduced or nonoxidized form; y

has a value from greater than 0.5 to 1 for said reduced form and

y has a value from less than 0.5 to 0 said oxidized form.

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22. A method according to claim 1 wherein said polymer is a

polyaniline having structural formula:



wherein each R can be H or any organic or inorganic radical; each

R can be the same or different; wherein each R

sup 1

can be H or any organic or inorganic radical, each R

sup 1

can be the same or different;

$x \geq 1$

; preferably

$x \geq 2$

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y has a value of 0.5 or said nonreduced or nonoxidized form; y

has a value from greater than 0.5 to 1 for said reduced form and

16 y has a value from less than 0.5 to 0 said oxidized form.

23. A method according to claim 1 wherein said solvent comprises more than one fluorinated solvent.

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24. A method according to claim 1 further including forming from said polymer an object selected from the group consisting of a film, a fiber, or a structural part.

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25. A method according to claim 1 wherein an electrically conducting polymer is formed having a level of electrical conductivity thereof which is varied by varying the concentration of said polymer in said solution.

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25. A method according to claim 1 wherein an electrically conducting polymer or precursor is blended with a thermoset or thermoplastic polymer.

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